

PRACTICE GUIDELINES: TRAUMATIC ARREST

OBJECTIVES:

1. To define priorities in the management of traumatic arrest.
2. To describe procedures for the management of traumatic arrest.

DEFINITION:

Traumatic arrest: A patient who is admitted to the trauma room with no pulses or spontaneous respiratory activity. This status includes pulseless electrical activity (PEA).

Signs of life: Presence of blood pressure, neurologic activity, and/or respiratory effort. Cardiac electrical activity in the absence of any other “signs of life” (PEA) will not be an indication to proceed with resuscitative thoracotomy

GUIDELINES:

1. Background
 - a. Blunt trauma arrest
 - i. Survival is zero.
 - ii. Resuscitative thoracotomy should be not be used.
 - b. Penetrating Trauma arrest
 - i. Up to 30% survival depending on the circumstances and the nature of the injury
 - ii. Prognosis is better at urban centers with rapid transport times
 - iii. Penetrating chest injuries are associated with greatest survival
 - c. General approach to the initiation of resuscitation
 - i. Blunt traumatic arrest should have an initial attempt at appropriate ACLS..
 - ii. Penetrating traumatic arrest
 - a) Do not resuscitate if the patient has had no signs of life (consciousness, movement, blood pressure, pulse) for greater than **ten minutes**.
 - b) Resuscitation can be terminated in the field for patients in asystole.
2. Penetrating chest injury in traumatic arrest with hypotension or loss of VS for no longer than 5 minutes deserves vigorous trauma resuscitation.
3. Penetrating abdominal injury in traumatic arrest and arrives without vital signs (survival 5.7%) and does not respond to initial resuscitation meets criteria for this resuscitation if signs of life present within last 5 minutes.
4. General Procedure for Traumatic arrest:
 - a. Transfer patient onto trauma gurney.
 - b. Continue CPR.
 - c. Do a rapid primary survey.
 - d. Confirm presence or absence of spontaneous cardiac and/or respiratory activity (use cardiac ultrasound to view cardiac motion).
 - e. Do simultaneous orotracheal intubation and IV access.
 - i. In this situation IV access may not be obtainable in peripheral veins.
 - ii. Attempt simultaneous femoral venous access and/or subclavian vein IV insertion.
 - f. Resuscitative procedures:

- i. Bilateral Needle Thoracostomy
 - 1) If a large amount of air or blood is obtained out of either cannula, then immediately insert a chest tube into that side of the chest.
 - 2) Alternatively, insert chest tube on both sides of the chest as initial

- ii. Consider Peri-Cardiocentesis
 - 1) If penetrating trauma
 - 2) If positive FAST for pericardial fluid.
- g. Assess the cardiac rhythm.
 - i. Initiate the ACLS protocol.
 - ii. In the usual case, the problem will be asystole and epinephrine will be the first drug of choice.
- h. Activate MTP
 - i. Run all blood and fluid through rapid infuser.
 - ii. The infusion rate should be between 500 and 1000 ml/minute.

- i. Determine need for thoracotomy
 - i. Indications
 - a) Penetrating chest injury with signs of life within 5minutes of now.
 - b) If no pulse or cardiac electrical activity does not proceed.
Left anterior thoracotomy:
 - e) If cardiac function returns
 - (ii) Prepare to go to the OR as quickly as possible
 - request Cell saver
 - Continue MTP resuscitation and any pressors
 - (iii) Be dignified; cover the thoracotomy with a sheet
 - f) If unsuccessful, close thoracotomy skin incision with large nylon running sutures. Call the medical examiner/coroner. Stop MTP.